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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,659	10/16/2003	Tien-Shin Ho	REAP0013USA	2658
27765 7590 04/17/2007 NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			EXAMINER NALVEN, ANDREW L	
			ART UNIT	PAPER NUMBER
			2134	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		04/17/2007	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/17/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/605,659	Applicant(s) HO ET AL.	
	Examiner Andrew L. Nalven	Art Unit 2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-15 are pending.
2. Applicant's arguments filed 3/14/2007 have been fully considered but they are not persuasive.
3. Applicant has argued that Denis fails to teach the limitations of claim 1. Applicant specifically alleges that the combinatorial logic is not applied to the smaller words x0 and x1 of Denis. Examiner respectfully disagrees. Denis teaches, "the input is split into two 8-bit words x1 and x0" and "each of the smaller words are passed through the tables." Hence, each 8-bit words is passed through the tables. Denis' teaching matches that of the claim that requires only calculating a TKIP Sbox left value (Denis, Figure 3, Item x1 through TSL/TSU) and a TKIP Sbox right value (Denis, Figure 3, Item x0 through TSU/TSL). If the smaller values x0 and x1 were not to be sent to the combinatorial logic there would be no need to split them. Applicant further argues that lookup tables, as presented in Denis, are a poor design choice due to chip space and design considerations. Examiner notes that the claims as currently presented do not require any particular form or design and thus Denis' lookup tables can be read as combinatorial logic circuits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. **Claims 1-15 are rejected under 35 U.S.C. 102(a)** as being anticipated by Tom St. Denis "Analysis of TKIP Temporal Key Integrity Protocol (hereafter "Denis").
5. **With regards to claims 1, 6 and 11**, Denis teaches a first plurality of combinatorial logic for calculating a TKIP Sbox left value according to a low part of an index value (Denis, pages 4-5 sections 3 and 3.1, Figure 3, x0), a second plurality of combinatorial logic for calculating a TKIP Sbox right value according to a high part of the index value (Denis, pages 4-5 sections 3 and 3.1, Figure 3, x1), and a third plurality of combinatorial logic for calculating the TKIP Sbox value according to the TKIP Sbox left value and the TKIP Sbox right value (Denis, pages 4-5 sections 3 and 3.1, Figure 3).
6. **With regards to claims 2 and 12**, Denis teaches the third plurality of combinatorial logic is a plurality of XOR gates (Denis, Figure 3.1).
7. **With regards to claims 3, 7 and 13**, Denis teaches the TKIP Sbox left value is XORed with the TKIP Sbox right value by the plurality of XOR gates and the output of the plurality of XOR gates forms the TKIP Sbox value (Denis, Figure 3.1).
8. **With regards to claim 4, 8 and 14**, Denis teaches that for each bit in the TKIP Sbox left value, the first plurality of combinatorial logic comprises a logic circuit, each

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logic circuit respectively calculating a bit in the TKIP Sbox left value (Denis, pages 4-5 sections 3 and 3.1, Figure 3).

9. **With regards to claims 5, 9 and 15**, Denis teaches that for each bit in the TKIP Sbox right value, the first plurality of combinatorial logic comprises a logic circuit, each logic circuit respectively calculating a bit in the TKIP Sbox right value (Denis, pages 4-5 sections 3 and 3.1, Figure 3).

10. **With regards to claim 10**, Denis teaches TKIP Sbox logic configured to calculate a TKIP Sbox value according to an index value (Denis, Figure 3.1).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Nalven whose telephone number is 571 272 3839. The examiner can normally be reached on Monday - Thursday 8-6; Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on 571 272 3811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Nalven



David Y. Jung
Primary Examiner



4/11/07